

15
CLAIMS

1. A medical product comprising a dry powder dose of tiotropium directly loaded into a container, wherein

5 a dry, high barrier seal constitutes the container;
the high barrier seal of the container prevents ingress of moisture whereby the original fine particle fraction of the powder dose is preserved, and
the dry powder dose in the container is adapted for administration by a dry powder inhaler.

10 2. The medical product according to claims 1, wherein
administration of the dry powder dose is performed by inhalation from a dry powder inhaler providing a prolonged dose delivery.

15 3. The medical product according to claims 1, wherein
the tiotropium substance consists of one or more physiologically acceptable salts of tiotropium.

20 4. The medical product according to claims 1, wherein
an included excipient is lactose.

5. The medical product according to claims 1, wherein
formed or flat aluminum foils, optionally laminated with polymers, constitute the dry, high barrier seal.

25 6. The medical product according to claims 1, wherein
a cavity molded from a polymer material selected to give the container high barrier seal properties constitutes the container.

30 7. The medical product according to claims 1, wherein

a cavity molded from a polymer material together with a high barrier seal constitute the container providing it with high barrier seal properties.

8. The medical product according to claims 1, wherein
5 the container is a part of a dry powder inhaler.

9. The medical product according to claims 1, wherein
the container is a separate part adapted for insertion into a dry
powder inhaler

10. The medical product according to claims 1, wherein
the container is a separate part comprising a primary part adapted
for insertion into a dry powder inhaler and a secondary part enclosing the
primary part in a moisture-tight package.

11. The medical product according to claims 1, wherein
the medical product is intended for use in the treatment of
respiratory disorders.

12. A pharmaceutical composition comprising tiotropium or a
20 physiologically acceptable salt thereof and a physiologically acceptable excipient,
wherein

the composition is directly loaded and sealed into a dry, moisture-
tight package or dry, high barrier container in order to preserve the original fine
25 particle fraction of the composition.

13. The pharmaceutical composition according to claim 12, wherein
administration of the combination dry powder dose is performed by
inhalation from a dry powder inhaler providing a prolonged dose delivery.

14. The pharmaceutical composition according to claim 12, wherein

the tiotropium comprises one or more physiologically acceptable salts of tiotropium.

15. The pharmaceutical composition according to claim 12, wherein
5 an included excipient is lactose.

16. The pharmaceutical composition according to claim 12, wherein
formed or flat aluminum foils, optionally laminated with polymers,
constitute the dry, moisture-tight package or dry, high barrier container.

10 17. The pharmaceutical composition according to claim 12, wherein
a cavity molded from a polymer material with high barrier seal
properties forms the dry, moisture-tight package or dry, high barrier container.

15 18. A pharmaceutical composition according to claim 12, wherein
a cavity molded from a polymer material together with a high barrier
seal constitute the dry, moisture-tight package or dry, high barrier container,
thereby giving the package or container high barrier seal properties.

20 19. The pharmaceutical composition according to claim 12, wherein
the dry, moisture-tight package or dry, high barrier container
constitutes a part of a dry powder inhaler.

20. The pharmaceutical composition according to claim 12, wherein
25 the dry, moisture-tight package or dry, high barrier container is a
separate part adapted for insertion into a dry powder inhaler.

21. The pharmaceutical composition according to claim 12, wherein
the dry, moisture-tight package or dry, high barrier container is a
30 separate part comprising a primary package adapted for insertion into a dry
powder inhaler, and a secondary moisture-tight package or container enclosing
the primary package.

22. The pharmaceutical composition according to claim 12, wherein the pharmaceutical composition is for a use in the treatment of a respiratory disorder.

5 23. A medical product comprising tiotropium and separate or together with at least one additional active pharmaceutical ingredient and optionally including excipients in a dry powder medical combination dose directly loaded into a container, wherein

10 a dry, high barrier seal constitutes the container;
the high barrier seal of the container prevents ingress of moisture whereby the original fine particle fraction of the combination dose is preserved;
the combination dose is adapted for administration by a dry powder inhaler, and

15 the at least one additional active pharmaceutical ingredient is selected from the following groups of substances: inhalable steroids, nicotinamide derivatives, beta-agonists, beta-mimetics, anti-histamines, adenosine A2A receptors, PDE4 inhibitors, dopamine D2 receptor agonists.

20 24. The medical product according to claims 23, wherein administration of the dry powder dose is performed by inhalation from a dry powder inhaler providing a prolonged dose delivery.

24. The medical product according to claims 23, wherein
25 the tiotropium substance consists of one or more physiologically acceptable salts of tiotropium.

25. The medical product according to claims 23, wherein an included excipient is lactose.

30 26. The medical product according to claims 23, wherein

formed or flat aluminum foils, optionally laminated with polymers, constitute the dry, high barrier seal.

27. The medical product according to claims 23, wherein

5 a cavity molded from a polymer material selected to give the container high barrier seal properties constitutes the container.

28. The medical product according to claims 23, wherein

10 a cavity molded from a polymer material together with a high barrier seal constitute the container providing it with high barrier seal properties.

29. The medical product according to claims 23, wherein

the container is a part of a dry powder inhaler.

15 30. The medical product according to claims 23, wherein

the container is a separate part adapted for insertion into a dry powder inhaler

31. The medical product according to claims 23, wherein

20 the container is a separate part comprising a primary part adapted for insertion into a dry powder inhaler and a secondary part enclosing the primary part in a moisture-tight package.

32. The medical product according to claims 23, wherein

25 the medical product is intended for use in the treatment of respiratory disorders.

33. A pharmaceutical composition comprising tiotropium or a physiologically acceptable salt thereof and separate or together with at least one

30 active pharmaceutical ingredient, optionally including physiologically acceptable excipients in a combination dry powder dose, wherein

the combination dry powder dose is directly loaded and sealed into a dry, moisture-tight package or dry, high barrier container in order to preserve the original fine particle fraction (FPF) of the composition;

the at least one active pharmaceutical ingredient is selected from the following groups of substances: inhalable steroids, nicotinamide derivatives, beta antagonists, beta-mimetics, anti-histamines, adenosine A2A receptors, PDE4 inhibitors, dopamine D2 receptor agonists.

34. The pharmaceutical composition according to claim 33, wherein administration of the combination dry powder dose is performed by inhalation from a dry powder inhaler providing a prolonged dose delivery.

35. The pharmaceutical composition according to claim 33, wherein the tiotropium comprises one or more physiologically acceptable salts of tiotropium.

36. The pharmaceutical composition according to claim 33, wherein an included excipient is lactose.

37. The pharmaceutical composition according to claim 33, wherein formed or flat aluminum foils, optionally laminated with polymers, constitute the dry, moisture-tight package or dry, high barrier container.

38. The pharmaceutical composition according to claim 33, wherein a cavity molded from a polymer material with high barrier seal properties forms the dry, moisture-tight package or dry, high barrier container.

39. A pharmaceutical composition according to claim 33, wherein a cavity molded from a polymer material together with a high barrier seal constitute the dry, moisture-tight package or dry, high barrier container, thereby giving the package or container high barrier seal properties.

40. The pharmaceutical composition according to claim 33, wherein the dry, moisture-tight package or dry, high barrier container constitutes a part of a dry powder inhaler.

5 41. The pharmaceutical composition according to claim 33, wherein the dry, moisture-tight package or dry, high barrier container is a separate part adapted for insertion into a dry powder inhaler.

10 42. The pharmaceutical composition according to claim 33, wherein the dry, moisture-tight package or dry, high barrier container is a separate part comprising a primary package adapted for insertion into a dry powder inhaler, and a secondary moisture-tight package or container enclosing the primary package.

15 43. The pharmaceutical composition according to claim 33, wherein the pharmaceutical composition is for a use in the treatment of a respiratory disorder.